INTERNATIONAL COLLABORATION IN SAR GROUND DATA SYSTEMS

LED BY

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SAR GROUND DATA SYSTEMS
INTERNATIONAL COLLABORATION

CONSIDERATIONS

- SUCCESS OF FUTURE SPACEBORNE SAR MISSIONS WILL REQUIRE MULTI-
  AGENCY AND/OR MULTI-NATIONAL COLLABORATION
  - JOINT DEVELOPMENT AND OPERATIONS FUNDING
  - SHARED TECHNOLOGY DEVELOPMENT

- GROUND PROCESSING IS TYPICALLY PERFORMED BY EACH AGENCY FOR
  THEIR USER BASE
  - LOCAL CONTROL OF DATA PROCESSING QUEUE AND PRODUCT QUALITY
  - COMMERCIAL UTILIZATION, REAL-TIME APPLICATIONS
  - APPLICATION SPECIFIC PROCESSING, GEOPHYSICAL PRODUCTS

- INTERNATIONAL STANDARDS ARE REQUIRED TO ACHIEVE A UNIFORM DATA
  PRODUCT INDEPENDENT OF THE PROCESSING CENTER
  - COMMON FORMATS: DATA STRUCTURES, COMMON READERS
  - COMMON PRESENTATION: PRODUCT DEFINITION
  - DATA PRODUCT QUALITY STANDARDS: CALIBRATION, ALGORITHMS
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CONSIDERATIONS - 2

• TO REDUCE THE AGGREGATE COST OF THE GROUND DATA SYSTEMS, COLLABORATION IS REQUIRED IN DESIGN AND DEVELOPMENT

• EFFECTIVE UTILIZATION OF THE DATA BY AN INTERNATIONAL USER COMMUNITY
  - INTERNATIONAL HIGH RATE DATA NETWORKS FOR ELECTRONIC DATA ACCESS: INTERFACES, PROTOCOLS, DATA RATES
  - JOINT MISSION PLANNING SYSTEMS
  - DISTRIBUTED DATABASES

• COMMERCIALIZATION OF DATA PRODUCTS
  - COORDINATION OF POLICIES BY VARIOUS AGENCIES
  - RATE STRUCTURE FOR DATA PRODUCTS

• SECURITY OF DATA SYSTEMS
  - CONTROL OF UNAUTHORIZED DISTRIBUTION
  - CONTROL OF UNAUTHORIZED ACCESS
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SOLUTIONS

- COMMITTEES
  - LESS ADMINISTRATIVE, MORE TECHNICAL
  - INvolvement of project ENGINEERS TO ASSURE IMPLEMENTATION
    OF RESULTS
  - FUNDING FOR REQUIRED WORK, MEMBERS HELD ACCOUNTABLE TO
    MEET GOALS

- ONGOING COMMITTEE WORK
  - DATA FORMATS: CEOS SAR WG ON DATA IS INACTIVE, FORMAT MUST BE
    MAINTAINED
  - DATA POLICY: NEW US/CANADA RADARSAT GROUP, EXPAND ROLE
  - CALIBRATION/VALIDATION: ACTIVE GROUP, CEOS, NO FUNDING
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SOLUTIONS - 2

• JOINT DEVELOPMENT OF GROUND PROCESSORS
  - ERS-1 BETWEEN > 8 INDEPENDENT DEVELOPMENTS OF SAME
    OPERATIONAL PROCESSOR: MINIMAL COLLABORATION WITHIN ESA PAFs,
    NONE OUTSIDE OF ESA

  - US AND CANADA: BOTH EMBARKING ON UNDERFUNDED COLLATERAL
    EFFORTS TO DEVELOP SAME GROUND PROCESSING SYSTEM, NO
    INTERACTION

• SHARED TECHNOLOGY
  - WORKING COOPERATIVELY IS ONLY METHOD TO ENSURE UNIFORM
    QUALITY DATA PRODUCTS FROM NATIONAL PROCESSING CENTERS
  - SHARED DEVELOPMENT IS MAJOR COST SAVINGS
  - RESEARCH COLLABORATION WILL MORE QUICKLY ADVANCE STATE OF
    ART IN PROCESSING TECHNOLOGY AND ALGORITHMS: BETTER SCIENCE
  - RESIDENT ENGINEER EXCHANGE PROGRAM
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SOLUTIONS - 3

- GEOPHYSICAL PROCESSING/PRODUCTS
  - INCORPORATION OF SCIENTIST'S ALGORITHMS INTO OPERATIONAL DATA SYSTEM: ALGORITHM VALIDATION, PRODUCT QUALITY ASSURANCE, MAINTENANCE
  - ASF GEOPHYSICAL PROCESSOR: EXPERIMENTAL SYSTEM TO GENERATE ICE MOTION, CONCENTRATION AND WAVE PRODUCTS
  - US JOINT ICE CENTER AND CANADIAN ICE CENTER HAVE BEGUN INITIAL EXCHANGE OF PRODUCTS